REMARKS/ARGUMENTS

This Amendment is submitted in response to the **Final** Office Action dated December 2, 2008.

I. Introduction

Claims 3-7, 10-12 and 15-17 are pending in the application.

The Examiner has objected to claims 7 and 10 for informalities. Claims 7 and 10 have been amended. No new matter has been introduced.

The Examiner rejected claims 3-4 and 15-16 as being anticipated under 35 U.S.C. §102(e) by U.S. Patent Publication No. 2004/0184483 A1 to Okamura et al. (hereinafter "the Okamura et al. publication").

In addition the Examiner rejected claims 5 and 17 under 35 U.S.C. §103(a) over the Okamura et al. publication in view of U.S. Patent No. 5,898,673 to Riggan et al. (hereinafter "the Riggan et al. patent").

In addition the Examiner rejected claim 6 under 35 U.S.C. §103(a) over the Okamura et al. publication and the Riggan et al. patent further in view of U.S. Patent Publication No. 2003/0152028 A1 to Raisanen et al. (hereinafter "the Raisanen et al. publication").

In addition the Examiner rejected claims 7-12 under 35 U.S.C. §103(a) under the Okamura et al. publication further in view of U.S. Patent Publication No. 2005/0021804 A1 to Hameleers et al. (hereinafter "the Hameleers et al. publication").

As will be discussed below, none of the pending claims, as amended, are anticipated or rendered obvious by the applied references.

II. The Examiners Objections to
Claim 7 and 10 have been Overcome

The Examiner objected to Claims 7 and 10 due to informalities. Claims 7 and 10 have been amended accordingly to address the objections.

III. Claims 3, 4, 15, and 16 are Patentable

The Examiner rejected claims 3, 4, 15, and 16 as being anticipated under 35 U.S.C. §102(e) by the Okamura et al. publication.

Claim 3 recites the following features (emphasis added):

> *operating the control node to generate the link bandwidth utilization information corresponding to said second link **from an estimate of bandwidth that will be used** on said second link by services **over which said control node does not have admission control***

The Examiner states in No. 4 of the Office Action that "unit 15 calculates a load balancing process on the basis of the statistical information collected by the network control device 10 ….[0185] lines 3-9" and "the load balancing control unit 15 calculates a load state of the path set within the network at the present". However, this does not describe **"an estimate of bandwidth that will be used"**.

From the Okamura et al. publication, [0200] (emphasis added): "The statistical information collecting unit 11 **accesses each of the routers** within the network **at the interval of the predetermined period**". Then, "At

this time, the statistical information collecting unit 11
acquires the information retained by the routers for the
bandwidth (Wg) actually used for the GS flow and for the
bandwidth (Wb) actually used for the BES flow."

It can be seen that this process is not "as estimate
of bandwidth", or of "bandwidth that will be used".

The Examiner goes on to state on p. 4 of the Office
Action that:

> " 'the network information database 12 is stored
> with respective pieces of bandwidth information
> of the link's physical bandwidth (WL), the
> bandwidth reserved for the GS flow (WG), the
> bandwidth reserved for the BES flow (WB), the
> bandwidth actually used for the GS flow (Wg),
> and the bandwidth actually used for the BES flow
> (Wb)' ([0141] lines 3-9).

Applicant respectfully disagrees that the above teaches
or suggests an "estimate of bandwidth that will be used".
WL, WG, WB, Wg, and Wb are all defined, knowable,
ascertainable, distinct values. **None** are **estimates.**
Therefore, the Okamura et al. publication does not render
claim 3 unpatentable.

Further, the Okamura et al. publication does not
teach or suggest "an estimate of bandwidth that will be
used on said second link by services **over which said
control node does not have admission control**" (emphasis
added). The Okamura et al. publication deals with two
information flows: "quality guaranteed flow" and "quality
non-guaranteed flow" [0061] lines 2-4. The route control
unit of the Okamura et al. publication clearly has
"admission control" over both flows.

For example:

> "Fig. 12 is a function block diagram of the load
> balancing control unit 15 of the network control

device 10. The load balancing control unit 15
calculates allocations of individual flows to
the plurality of routes. At this time, the load
balancing control unit 15 calculates a load
balancing process on the basis of the
statistical information collected by the network
control device 10 or the request bandwidth
information stored on the network information
database 12 by the user request processing unit
13" [0185] lines 1-9.

Also,

"GS executes the searching process as to whether
or not there is the route that meets the quality
with respect to the notified quality parameter
(S104)" [0213] lines 1-4.

Further,

"In a case where the route that meets the user
request is discovered as a result of the route
search by the route control unit 14, the route
information is transferred to the router control
unit 16" [0213] lines 11-15.

Finally,

"While on the other hand, in a case where the
route that meets the user request is not
discovered as the result of the route search by
the route control unit 14, the route control
unit 14 notifies the user request processing
unit 13 that the route search resulted in being
unsuccessful for the user request processing
unit 13 (S105)" [0214] lines 1-6.

It is clear from the above that the route control
unit of the Okamura et al. publication has "admission
control" of both types of traffic on all of the links
under the control of the route control unit. For this
additional reason, the Okamura et al. publication does
not render claim 3 unpatentable.

The Examiner argues on p. 16 of the Office Action
that (emphasis added):

> "Okamura discloses 'the network information
> database 12 is stored with respective pieces of
> bandwidth information of the link's <u>physical
> bandwidth</u> (WL), the <u>bandwidth reserved</u> for the
> GS flow (WG), the <u>bandwidth reserved</u> for the BES
> flow (WB), the <u>bandwidth actually used</u> for the
> GS flow (Wg), and the <u>bandwidth actually used</u>
> for the BES flow (Wb)' ([0141] lines 3-9)."

The Examiner goes on to characterize the above as
"Okamura does disclose an estimate of <u>bandwidth that will
be used</u>" (emphasis added). Applicant respectfully
disagrees that any of the above cited bandwidth
descriptions are "bandwidth that will be used"; they are
instead "bandwidth reserved" and "bandwidth actually
used".

The Examiner argues further on p. 17 of the Office
Action that:

> "Okamura discloses 'it is possible to reduce a
> probability of coming to the state of congestion
> also in the case of an abrupt increase in
> forwarding quantity of the BES flow' [0072].
> This shows a flow that the control node does not
> have admission control since it will cause a
> state of congestion. Therefore, Okamura
> discloses an estimate of bandwidth that will be
> used on said second link by services over which
> said control node does not have admission
> control."

Applicant disagrees with the Examiner's
characterizations on several counts. First, none of the
above teaches or suggests "an estimate". It shows an
action that will "reduce a probability of coming to the
state of congestion" if there is an "abrupt increase in

forwarding quantity of the BES flow". No "estimate" is
ever made.

Second, as argued above, the control node of the
Okamura et al. publication **does** have admission control.
For example, from [0185]:

> "Fig. 12 is a function block diagram of the load
> balancing control unit 15 of the network control
> device 10. The load balancing control unit 15
> calculates allocations of individual flows to
> the plurality of routes."

Third, as opposed to "estimating" loads, and "not
having admission control", [0222] and [0223] of the
Okamura et al. publication state (emphasis added):

> "…in the case of judging that this path falls
> into the congestion, notifies the BES-oriented
> route calculation unit 14b of the route control
> unit 14 that **it falls into the congestion."**
> "The BES-oriented route calculation unit 14b
> having received the notification **performs**
> **calculating a new route for the load balancing**
> (S303)."

For at least the above reasons, claim 3 is
patentable over the Okamura et al. publication.

Claim 15 has the feature:

> *from an estimate of bandwidth that will be used*
> *on said second link*

For the reasons stated above regarding claim 3,
claim 15 is patentable over the Okamura et al.
publication.

For at least the reason that claim 4 depends from
allowable claim 3, **claim 4 is patentable over the cited**
art.

As claim 16 depends from allowable claim 15, **claim 16 is patentable over the cited art.**

IV.   Claims 5 and 17 are Patentable

The Examiner rejected claims 5 and 17 under 35 U.S.C. §103(a) over the Okamura et al. publication in view of the Riggan et al. patent.

Claim 5 recites the following features (emphasis added):

> *where said link bandwidth utilization information corresponding to said second link is further generated as a function of the* **physical link capacity of links used to couple** *Internet service users to said second link*

The Examiner states on p. 5 of the Office Action:

> Nevertheless, Riggan et al. teaches 'if the signal from the network management system 206 indicates that the QoS threshold is exceeded, then at least a first portion of the data, e.g., excess cells, are routed to node 300b via one or more of the secondary networks 212a-212c.'"

The Examiner goes on to state on p. 6 of the Office Action:

> "it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Okamura et al.'s invention to carry best effort Internet traffic over the second link because 'a quality of service (QoS) traffic contract bandwidth limit and a corresponding QoS threshold' can be established (Riggan et al. column 4, lines 36-37)."

There are two problems with this analysis. First, the Riggan et al. patent does not utilize "physical link capacity"; it uses QoS thresholds to determine capacity issues.

Second, there is no teaching or suggestion in the Riggan et al. patent of "the physical link capacity of **links used to couple** Internet service users **to said second link**" (emphasis added). There is no teaching or suggestion in the Riggan et al. patent of looking at link capacity (or even QoS thresholds) on one link to use for link bandwidth utilization information on another link.

The Examiner responds to this objection on p. 17 of the Office Action by stating that the Okamura et al. publication discloses "a bandwidth required for BES can be calculated". However, this does not refer to "Internet service users", and does not teach or suggest (emphasis added) "*where said link bandwidth utilization information corresponding to said second link is further generated as a function of* **the physical link capacity of links** *used* **to couple Internet service users to said second link**". The references in the Okamura et al. publication are to the link in question, not "other links used to couple" to the link in question.

The Examiner goes on to state: "the network information database 12 is stored with IP addresses of connecting destination interfaces". This, however, does not refer to "best effort Internet traffic is carried over said second link". Therefore, the Okamura et al. publication does not disclose "the physical link capacity of links used to couple Internet service users to said second link" (p. 18 of the Office Action). Even if it is true that the Okamura et al. publication discloses link

capacity, it does not teach or suggest "link bandwidth utilization information **corresponding to said second link**" being **"generated as a function** of the physical link capacity of **links used to couple Internet service users to said second link"**. Again, there is no reference to "Internet service users", and there is no reference or suggestion of "generating link bandwidth" information on one link from "the physical link capacity" of other links. As a matter of fact, there is no suggestion of **any** generation of link information of one link from the capacity of another link, to say nothing of such involving "Internet service users".

Finally, claim 5 recites:

> *an average of the physical link capacity which is used over a period of time by said users for Internet service*

There is no teaching or suggestion in the references, nor does the Examiner claim that there is, for "an average of the physical link capacity which is used over a period of time", whether by "users for Internet service", or for any other use.

For at least these reasons, and because claim 5 depends from allowable claims 3 and 4, **claim 5 is patentable over the cited art.**

Claim 17 recites the feature:

> *said link bandwidth utilization information corresponding to said second link is further generated as a function of the physical link capacity of links used to couple Internet service users to said second link*

For the above reasons, and because claim 17 depends from allowable claims 15 and 16, **claim 17 is patentable over the cited art.**

V.   Claim 6 is Patentable

The Examiner rejected claim 6 under 35 U.S.C. §103(a) over the Okamura et al. publication and the Riggan et al. patent further in view of the Raisanen et al. publication.

Claim 6 recites the feature:

> *wherein said control node generates a control message to reduce the amount of bandwidth allocated to best effort traffic on one of said first, second and third links, when a service request for a service requiring a guaranteed amount of bandwidth on said one of said first, second and third links is received and said guaranteed amount of bandwidth is not available due to best effort traffic on said one of said first, second and third links.*

The Examiner acknowledges on p. 6 of the Office Action that:

> "Okamura et al. and Riggan et al. fails to specifically disclose said control node generates a control message to reduce the amount of bandwidth allocated to best effort traffic on one of said first, second and third links, when a service request for a service requiring a guaranteed amount of bandwidth on said one of said first, second and third links is received and said guaranteed amount of bandwidth is not available due to best effort traffic on said one of said first, second and third links, as claimed."

The Examiner goes on to state on p.7 of the Office Action:

> "Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to reduce the amount of bandwidth to best effort traffic on one of the first, second and third links if a service requiring a guaranteed amount of bandwidth is not available because this would accommodate when 'measurements show that the QoS situation in the IP network suddenly deteriorates (for example, the delay increases)' (Raisanen et al. [0060] lines 1-2)."

If the Raisanen et al. publication shows limiting best-effort traffic, it does so in response to "the QoS situation in the IP network suddenly deteriorates". This does not teach or suggest doing so "when a service request for a service requiring a guaranteed amount of bandwidth on said one of said first, second and third links is received and said guaranteed amount of bandwidth is not available".

Further, the Okamura et al. publication describes finding routes for requested traffic, not limiting existing traffic in order to accommodate requested traffic. Therefore, there would be no reason to look to the Raisanen et al. publication for guidance on how to do so.

The Examiner apparently argues on p. 18 of the Office Action that the Raisanen et al. publication does show "a service request where the guaranteed amount of bandwidth is not available". Even if this is true, there is no teaching or suggestion in the Raisanen et al. publication of "generating a control message to reduce the amount of bandwidth allocated to best effort traffic

-19-

on one of said first, second and third links" in response to such a situation. Instead, it **refuses the request** ([0064] lines 4-17).

The Examiner goes on to argue that "Raisanen discloses 'the QM may carry this out by changing the parameter values of the traffic shaper of the access node". This is misleading. As stated above the Raisanen et al. patent in [0064] discloses the remedy to bandwidth not being available as "the QM advises the CPS to reject the request (block 64)." The Examiner is citing paragraph [0060] on the previous page of the Raisanen et al. patent which concerns "generating a control message". However, this "remedy", according to the Raisanen et al. patent, is for "the QoS situation in the IP network suddenly deteriorates (the delay increases, for example)". There is **no teaching or suggestion** in the Raisanen et al. patent of "generating a control message" **in response to** "a service request where the guaranteed amount of bandwidth is not available".

For at least these reasons, and because claim 6 depends from allowable claims 3, 4, and 5, **claim 6 is patentable over the cited art.**

VI. Claims 7-12 are Patentable

The Examiner rejected claim 7 under 35 U.S.C. §103(a) under the Okamura et al. publication further in view of the Hameleers et al. publication.

Claim 7, as amended, recites the following features (emphasis added):

> *when it is determined that said user to whom
> said service request corresponds is using other
> services which could be terminated to provide
> the bandwidth required to satisfy said service
> request,* **notifying the user of the insufficient
> bandwidth** *and* **presenting the user with the
> option of terminating the services being
> provided to said user which could be used to
> provide the bandwidth required to satisfy the
> service request.**

The Examiner states on p. 10 of the Office Action:

> "However, Okamura et al. fails to specifically
> disclose that determining if a user to whom said
> service request corresponds is using other
> services which can be terminated to provide the
> bandwidth required to satisfy said service
> request, as claimed."

The Examiner goes on to state (emphasis added):

> "Nevertheless, Hameleers et al. teaches
> 'determines that the available bandwidth of 14.4
> kbps is not enough to carry both the audio and
> video stream, and in the example of FIG. 4b, the
> procedure implemented in control procedure 10 is
> such that **the application decides to close one
> or more of the media streams, e.g. the video
> stream'** (Hameleers et al. [0060] lines 6-11)."

First, unlike claim 7, the <u>Hameleers et al.</u>
publication discloses that "the application decides to
close one or more of the media streams", not **the user.**

Second, the <u>Hameleers et al.</u> publication does not
teach or suggest "notifying the user of the insufficient
bandwidth". It simply reacts to "a change in the
available bandwidth" ([0058] lines 1-2) by following the
user's "control procedure" ([0061] line 6) which was **pre-
established** by the user.

Third, the <u>Hameleers et al.</u> publication does not
teach or suggest "presenting the user with the **option** of

terminating the services being provided"; it follows the user' pre-defined "control procedures" [0061] line 6.

The Examiner states on p. 19 of the Office Action: "Then, the user request processing unit 13 notifies the user terminal that the acceptance was rejected." However, claim 7 recites: "notifying the user of the insufficient bandwidth and **presenting the user with the option** of terminating the services being provided to said user".

Then, on p. 20 of the Office Action, the Examiner states:

> "'the user should have the possibility of setting the control procedure such that certain media streams are preferably dropped or preferably re-added, in accordance with the decrease or increase in available bandwidth' (Hameleers et al. [0061] lines 5-9)".

However, this user setting is accomplished **before** any finding of "insufficient bandwidth". For instance, in [0066] and [0067] of the Hameleers et al. patent (emphasis added):

> "the control procedure 10 and the application layer of media stream providing equipment 1 is preferably arranged such that a user or subscriber may adjust specific options. Examples of such options are: the order of media streams **to be closed** in case not enough bandwidth is available anymore to carry all media streams"

The Examiner goes on to quote from the Hameleers et al. patent:

> "'if a mobile terminal desires to establish a communication in which video and audio data is to be sent in respective streams, but the set-up request is only answered by the allocation of an insufficient amount of bandwidth, then the

-22-

control procedure can adapt to the allocated
bandwidth by e.g. only feeding an audio stream
and a control stream into the connection having
the allocated bandwidth' (Hameleers et al.
[0016] lines 10-16)".

The Examiner goes on to characterize the above as
(emphasis added):

> "This shows that the user has the option of
> terminating one of the services being provided.
> Therefore, Hameleers et al. discloses **presenting
> the user with the option** of terminating the
> services being provided."

Applicant respectfully finds no support in the cited
passages of the <u>Hameleers et al.</u> patent to support this
characterization of "presenting the user with the option
of terminating the services being provided". Further,
there is no "notifying the user of the insufficient
bandwidth" (other than notification that a service has
been terminated). At most, the user can pre-designate
"the order of media streams **to be closed** in case not
enough bandwidth is available anymore to carry all media
streams".

For at least these reasons, **claim 7 is patentable
over the cited art.**

Claim 10, as amended, recites the features:

> *presenting the user with the option of
> terminating the services being provided to said
> user which could be used to provide the
> bandwidth required to satisfy the service
> request*

and

> *operating the control node to receive a reply*
> *from said user indicating a desire to terminate*
> *services or not to terminate services*

The Examiner on p. 14 of the Office Action quotes from the <u>Hameleers et al.</u> publication at [0061] lines 5-9: "the user should have the possibility of setting the control procedure such that certain media streams are preferably dropped or preferably re-added, in accordance with the decrease or increase in available bandwidth".

This is clearly very different from the above listed features of claim 10, and further as argued above in relation to claim 7.

For these reasons, <u>claim 10</u> is patentable over the cited references.

For at least the reason that claims 11-12 depend from allowable claim 10, **claims 11-12 are patentable over the cited art.**

VII. <u>Conclusion</u>

In view of the foregoing amendments and remarks, it is respectfully submitted that the pending claims are in condition for allowance. Accordingly, it is requested that the Examiner pass this application to issue[1].

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[1] As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, ability to combine references, assertions as to patentability of dependent claims) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such in the future.

If there are any outstanding issues which need to be resolved to place the application in condition for allowance **the Examiner is requested to call (732-542-9070) and schedule an interview with Applicant's undersigned representative.** To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made and any required fee in regard to the extension or this amendment is authorized to be charged to the deposit account of Straub & Pokotylo, deposit account number 50-1049.

None of the statements or discussion made herein are intended to be an admission that any of the applied references are prior art to the present application and Applicants preserve the right to establish that one or more of the applied references are not prior art.

Respectfully submitted,

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